

RECEIVED

NOV 13 2001

OIPE

TECH CENTER 1600/2900

## RAW SEQUENCE LISTING

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:33

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

3 <110> APPLICANT: Bradfield, Christopher A.  
 4 Dolwick, Kristin M.  
 5 Carver, Lucy A.  
 7 <120> TITLE OF INVENTION: Ah Receptor cDNAs and Genetically Engineered Cells for  
 8 Detecting Agonists to the Ah Receptor  
 10 <130> FILE REFERENCE: HYBRIDZYME  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/08/855,402A  
 C--> 13 <141> CURRENT FILING DATE: 1997-05-13  
 15 <160> NUMBER OF SEQ ID NOS: 40  
 17 <170> SOFTWARE: PatentIn Ver. 2.1  
 19 <210> SEQ ID NO: 1  
 20 <211> LENGTH: 3207  
 21 <212> TYPE: DNA  
 22 <213> ORGANISM: murine  
 24 <220> FEATURE:  
 25 <221> NAME/KEY: CDS  
 26 <222> LOCATION: (1)..(2415)  
 28 <400> SEQUENCE: 1  
 29 atg agc agc ggc gcc aac atc acc tat gcc agc cgc aag cgg cgc aag 48  
 30 Met Ser Ser Gly Ala Asn Ile Thr Tyr Ala Ser Arg Lys Arg Arg Lys  
 31 1 5 10 15  
 33 ccg gtg cag aaa aca gta aag ccc atc ccc gct gaa gga att aag tca 96  
 34 Pro Val Gln Lys Thr Val Lys Pro Ile Pro Ala Glu Gly Ile Lys Ser  
 35 20 25 30  
 37 aat cct tct aag cga cac aga gac cgg ctg aac aca gag tta gac cgc 144  
 38 Asn Pro Ser Lys Arg His Arg Asp Arg Leu Asn Thr Glu Leu Asp Arg  
 39 35 40 45  
 41 ctg gcc agc ctg ctg ccc ttc ccg caa gat gtt att aat aag ctg gac 192  
 42 Leu Ala Ser Leu Leu Pro Phe Pro Gln Asp Val Ile Asn Lys Leu Asp  
 43 50 55 60  
 45 aaa ctc tct gtt ctt agg ctc agc gtc acg tac ctg agg gcc aag agc 240  
 46 Lys Leu Ser Val Leu Arg Leu Ser Val Thr Tyr Leu Arg Ala Lys Ser  
 47 65 70 75 80  
 49 ttc ttt gat gtt gca tta aag tcc acc cct gct gac aga aat gga ggc 288  
 50 Phe Phe Asp Val Ala Leu Lys Ser Thr Pro Ala Asp Arg Asn Gly Gly  
 51 85 90 95  
 53 cag gac cag tgt aga gca caa atc aga gac tgg cag gat ttg caa gaa 336  
 54 Gln Asp Gln Cys Arg Ala Gln Ile Arg Asp Trp Gln Asp Leu Gln Glu  
 55 100 105 110  
 57 gga gag ttc ttg tta cag gcg ctg aat ggc ttt gtg ctg gtt gtc aca 384  
 58 Gly Glu Phe Leu Leu Gln Ala Leu Asn Gly Phe Val Leu Val Val Thr  
 59 115 120 125  
 61 gca gat gcc ttg gtc ttc tat gct tcc tcc act atc caa gat tac ctg 432  
 62 Ala Asp Ala Leu Val Phe Tyr Ala Ser Ser Thr Ile Gln Asp Tyr Leu  
 63 130 135 140  
 65 ggc ttt cag cag tct gat gtc atc cat cag agc gta tat gag ctc atc 480  
 66 Gly Phe Gln Gln Ser Asp Val Ile His Gln Ser Val Tyr Glu Leu Ile

ENTERED

0.5

## RAW SEQUENCE LISTING

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:33

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

67	145		150		155		160	
69	cat	aca	gaa	gac	cgg	gcg	gaa	ttc
70	His	Thr	Glu	Asp	Arg	Ala	Glu	Phe
71								
73	aac	cca	gac	tct	gca	caa	gga	gtg
74	Asn	Pro	Asp	Ser	Ala	Gln	Gly	Val
75								
77	gca	gca	gtc	tat	tat	acc	cca	gac
78	Ala	Ala	Val	Tyr	Tyr	Thr	Pro	Asp
79								
81	ttc	atg	gag	agg	tgc	ttc	agg	tgc
82	Phe	Met	Glu	Arg	Cys	Phe	Arg	Cys
83								
85	tca	tct	ggt	ttt	ctg	gca	atg	aat
86	Ser	Ser	Gly	Phe	Leu	Ala	Met	Asn
87	225							
89	cat	gga	cag	aac	aag	aaa	ggg	aag
90	His	Gly	Gln	Asn	Lys	Gly	Lys	Asp
91								
93	ctg	gct	ttg	ttt	gca	ata	gct	act
94	Leu	Ala	Leu	Phe	Ala	Ile	Ala	Thr
95								
97	gaa	att	cga	acc	aaa	aac	ttc	atc
98	Glu	Ile	Arg	Thr	Lys	Asn	Phe	Ile
99								
101	ttc	aca	cct	att	ggt	tgt	gat	gcc
102	Phe	Thr	Pro	Ile	Gly	Cys	Asp	Ala
103								
105	aca	gaa	gta	gag	ctg	tgc	aca	aga
106	Thr	Glu	Val	Glu	Leu	Cys	Thr	Arg
107	305							
109	gct	gca	gac	ata	ctt	cac	tgt	gca
110	Ala	Ala	Asp	Ile	Leu	His	Cys	Ala
111								
113	act	gga	gaa	agt	ggc	atg	aca	ggt
114	Thr	Gly	Glu	Ser	Gly	Met	Thr	Val
115								
117	cgc	tggt	agg	tggt	gtc	cag	tcc	aat
118	Arg	Trp	Arg	Trp	Val	Gln	Ser	Asn
119								
121	aga	cca	gat	tac	atc	atc	gcc	act
122	Arg	Pro	Asp	Tyr	Ile	Ile	Ala	Thr
123								
125	gga	cga	gag	cat	tta	cag	aag	cga
126	Gly	Arg	Glu	His	Leu	Gln	Lys	Arg
127	385							
129	gct	acc	gga	gag	gct	gtg	ttg	tac
130	Ala	Thr	Gly	Glu	Ala	Val	Leu	Tyr
131								

## RAW SEQUENCE LISTING

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:33

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

133	ata atg gat ccc cta cca ata cgc acc aaa agc aac act agc agg aaa	1296
134	Ile Met Asp Pro Leu Pro Ile Arg Thr Lys Ser Asn Thr Ser Arg Lys	
135	420 425 430	
137	gac tgg gct ccc cag tca acc cca agt aag gat tct ttc cac ccc agt	1344
138	Asp Trp Ala Pro Gln Ser Thr Pro Ser Lys Asp Ser Phe His Pro Ser	
139	435 440 445	
141	tct ctt atg agt gcc ctc atc cag cag gat gag tcc atc tat ctg tgt	1392
142	Ser Leu Met Ser Ala Leu Ile Gln Gln Asp Glu Ser Ile Tyr Leu Cys	
143	450 455 460	
145	cct cct tca agc cct gcg ctg tta gac agc cat ttt ctc atg ggc tcc	1440
146	Pro Pro Ser Ser Pro Ala Leu Leu Asp Ser His Phe Leu Met Gly Ser	
147	465 470 475 480	
149	gtg agc aag tgc ggg agt tgg caa gac agc ttt gcg gcc gca gga agt	1488
150	Val Ser Lys Cys Gly Ser Trp Gln Asp Ser Phe Ala Ala Ala Gly Ser	
151	485 490 495	
153	gag gct gcg ctg aaa cat gag caa att ggc cat gct cag gac gtg aac	1536
154	Glu Ala Ala Leu Lys His Glu Gln Ile Gly His Ala Gln Asp Val Asn	
155	500 505 510	
157	ctt gca ctc tct ggc ggc ccc tca gag ctc ttt ccg gat aat aaa aat	1584
158	Leu Ala Leu Ser Gly Gly Pro Ser Glu Leu Phe Pro Asp Asn Lys Asn	
159	515 520 525	
161	aat gac ttg tac agc atc atg agg aac ctt ggg att gat ttt gaa gat	1632
162	Asn Asp Leu Tyr Ser Ile Met Arg Asn Leu Gly Ile Asp Phe Glu Asp	
163	530 535 540	
165	atc aga agc atg cag aac gag gag ttc ttc aga act gac tcc acc gct	1680
166	Ile Arg Ser Met Gln Asn Glu Glu Phe Phe Arg Thr Asp Ser Thr Ala	
167	545 550 555 560	
169	gct ggt gag gtt gac ttc aaa gac atc gac ata acg gac gaa atc ctg	1728
170	Ala Gly Glu Val Asp Phe Lys Asp Ile Asp Ile Thr Asp Glu Ile Leu	
171	565 570 575	
173	acc tac gtg cag gat tcc ctg aac aat tca act ttg ctg aac tcg gct	1776
174	Thr Tyr Val Gln Asp Ser Leu Asn Asn Ser Thr Leu Leu Asn Ser Ala	
175	580 585 590	
177	tgc cag cag cag cct gtg act cag cac cta agc tgt atg ctg cag gag	1824
178	Cys Gln Gln Gln Pro Val Thr Gln His Leu Ser Cys Met Leu Gln Glu	
179	595 600 605	
181	cgc ctg caa cta gag caa cag caa cag ctt cag cag ccc ccg ccg cag	1872
182	Arg Leu Gln Leu Glu Gln Gln Gln Gln Leu Gln Gln Pro Pro Pro Gln	
183	610 615 620	
185	gct ctg gag ccc cag cag cag ctg tgt cag atg gtg tgc ccc cag caa	1920
186	Ala Leu Glu Pro Gln Gln Gln Leu Cys Gln Met Val Cys Pro Gln Gln	
187	625 630 635 640	
189	gat ctg ggt ccg aag cac acg caa atc aac ggc acg ttt gca agt tgg	1968
190	Asp Leu Gly Pro Lys His Thr Gln Ile Asn Gly Thr Phe Ala Ser Trp	
191	645 650 655	
193	aac ccc acc cct ccc gtg tct ttc aac tgt ccc cag cag gaa cta aag	2016
194	Asn Pro Thr Pro Pro Val Ser Phe Asn Cys Pro Gln Gln Glu Leu Lys	
195	660 665 670	
197	cac tat cag ctc ttt tcc agc tta cag ggg act gct cag gaa ttt ccc	2064

## RAW SEQUENCE LISTING

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:33

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

```

198 His Tyr Gln Leu Phe Ser Ser Leu Gln Gly Thr Ala Gln Glu Phe Pro
199          675          680          685
201 tac aaa cca gag gtg gac agt gtg cct tac aca cag aac ttt gct ccc 2112
202 Tyr Lys Pro Glu Val Asp Ser Val Pro Tyr Thr Gln Asn Phe Ala Pro
203      690          695          700
205 tgt aat cag cct ctg ctt cca gaa cat tcc aag agt gtg cag ttg gac 2160
206 Cys Asn Gln Pro Leu Leu Pro Glu His Ser Lys Ser Val Gln Leu Asp
207 705          710          715          720
209 ttc cct gga agg gat ttt gaa ccg tcc ctg cat ccc act act tct aat 2208
210 Phe Pro Gly Arg Asp Phe Glu Pro Ser Leu His Pro Thr Thr Ser Asn
211          725          730          735
213 tta gat ttt gtc agt tgt tta caa gtt cct gaa aac caa agt cat ggg 2256
214 Leu Asp Phe Val Ser Cys Leu Gln Val Pro Glu Asn Gln Ser His Gly
215          740          745          750
217 ata aac tca cag tcc gcc atg gtc agt cct cag gca tac tat gct ggg 2304
218 Ile Asn Ser Gln Ser Ala Met Val Ser Pro Gln Ala Tyr Tyr Ala Gly
219      755          760          765
221 gcc atg tcc atg tat cag tgc cag cca ggg cca cag cgc acc cct gtg 2352
222 Ala Met Ser Met Tyr Gln Cys Gln Pro Gly Pro Gln Arg Thr Pro Val
223      770          775          780
225 gac cag acg cag tac agc tct gaa att cca ggt tct cag gca ttc cta 2400
226 Asp Gln Thr Gln Tyr Ser Ser Glu Ile Pro Gly Ser Gln Ala Phe Leu
227 785          790          795          800
229 agc aag gtg cag agt tgagggtgttt tcaatgaaac ctattcgtcc gacttgagca 2455
230 Ser Lys Val Gln Ser
231          805
233 gcattggcca cgctgctcag accactggcc atctccatca ctgcggaagc ccggcctctt 2515
235 ccgatataca caccgggtgg attcctgtag ctcccatgcc aggatgaaat tcattcagga 2575
237 acaggatacc agaactgtga ggggttgaca tcagtacact ttctccaaaa cagatttcga 2635
239 ttcttgtgtt tagagaagga gtttaaaacc cgtacctgag atgctcccta tacgatggga 2695
241 gagctcggac ggagcacatg ggaggagttc aggcacctca gagtgcacag tgtttactgt 2755
243 gaaaaattct cgggttccct gctcagtaac ttcagcagga aaaacaggga ggtatttgga 2815
245 gctttgaact tctggattct tgtagtata ccaaatacgg agttacagga ctaaccgatt 2875
247 tctatatatt ttttaacctct gtttttgtcc cagaagttaa agtaaattggt ttggtgcttt 2935
249 tctcaaaaga aaatctcaat gctttctttc tgcactgtta atataagtgc ctcacttttt 2995
251 gttgttgttg ttgttgtttt ctgatttttt tctttttttc tatctacctg taacacaata 3055
253 gggatatgtat tttatatgaa atatttttta tcttttttga attaatattc tttctgcaca 3115
255 aagaaagttt cccgaatccc aacctttcta tgaccccgct gtgtgtgtgc actactcatc 3175
257 ctttctttca gataaagagt aattgataac tc 3207
260 <210> SEQ ID NO: 2
261 <211> LENGTH: 805
262 <212> TYPE: PRT
263 <213> ORGANISM: murine
265 <400> SEQUENCE: 2
266 Met Ser Ser Gly Ala Asn Ile Thr Tyr Ala Ser Arg Lys Arg Arg Lys
267 1          5          10          15
269 Pro Val Gln Lys Thr Val Lys Pro Ile Pro Ala Glu Gly Ile Lys Ser
270      20          25          30
272 Asn Pro Ser Lys Arg His Arg Asp Arg Leu Asn Thr Glu Leu Asp Arg

```

## RAW SEQUENCE LISTING

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:33

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

```

273          35          40          45
275 Leu Ala Ser Leu Leu Pro Phe Pro Gln Asp Val Ile Asn Lys Leu Asp
276          50          55          60
278 Lys Leu Ser Val Leu Arg Leu Ser Val Thr Tyr Leu Arg Ala Lys Ser
279 65          70          75          80
281 Phe Phe Asp Val Ala Leu Lys Ser Thr Pro Ala Asp Arg Asn Gly Gly
282          85          90          95
284 Gln Asp Gln Cys Arg Ala Gln Ile Arg Asp Trp Gln Asp Leu Gln Glu
285          100          105          110
287 Gly Glu Phe Leu Leu Gln Ala Leu Asn Gly Phe Val Leu Val Val Thr
288          115          120          125
290 Ala Asp Ala Leu Val Phe Tyr Ala Ser Ser Thr Ile Gln Asp Tyr Leu
291          130          135          140
293 Gly Phe Gln Gln Ser Asp Val Ile His Gln Ser Val Tyr Glu Leu Ile
294 145          150          155          160
296 His Thr Glu Asp Arg Ala Glu Phe Gln Arg Gln Leu His Trp Ala Leu
297          165          170          175
299 Asn Pro Asp Ser Ala Gln Gly Val Asp Glu Ala His Gly Pro Pro Gln
300          180          185          190
302 Ala Ala Val Tyr Tyr Thr Pro Asp Gln Leu Pro Pro Glu Asn Ala Ser
303          195          200          205
305 Phe Met Glu Arg Cys Phe Arg Cys Arg Leu Arg Cys Leu Leu Asp Asn
306          210          215          220
308 Ser Ser Gly Phe Leu Ala Met Asn Phe Gln Gly Arg Leu Lys Tyr Leu
309 225          230          235          240
311 His Gly Gln Asn Lys Lys Gly Lys Asp Gly Ala Leu Leu Pro Pro Gln
312          245          250          255
314 Leu Ala Leu Phe Ala Ile Ala Thr Pro Leu Gln Pro Pro Ser Ile Leu
315          260          265          270
317 Glu Ile Arg Thr Lys Asn Phe Ile Phe Arg Thr Lys His Lys Leu Asp
318          275          280          285
320 Phe Thr Pro Ile Gly Cys Asp Ala Lys Gly Gln Leu Ile Leu Gly Tyr
321          290          295          300
323 Thr Glu Val Glu Leu Cys Thr Arg Gly Ser Gly Tyr Gln Phe Ile His
324 305          310          315          320
326 Ala Ala Asp Ile Leu His Cys Ala Glu Ser His Ile Arg Met Ile Lys
327          325          330          335
329 Thr Gly Glu Ser Gly Met Thr Val Phe Arg Leu Leu Ala Lys His Ser
330          340          345          350
332 Arg Trp Arg Trp Val Gln Ser Asn Ala Arg Leu Ile Tyr Arg Asn Gly
333          355          360          365
335 Arg Pro Asp Tyr Ile Ile Ala Thr Gln Arg Pro Leu Thr Asp Glu Glu
336          370          375          380
338 Gly Arg Glu His Leu Gln Lys Arg Ser Thr Ser Leu Pro Phe Met Phe
339 385          390          395          400
341 Ala Thr Gly Glu Ala Val Leu Tyr Glu Ile Ser Ser Pro Phe Ser Pro
342          405          410          415
344 Ile Met Asp Pro Leu Pro Ile Arg Thr Lys Ser Asn Thr Ser Arg Lys
345          420          425          430

```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

**VERIFICATION SUMMARY**

DATE: 09/10/2001

PATENT APPLICATION: US/08/855,402A

TIME: 08:10:34

Input Set : A:\Bradfiel.app

Output Set: N:\CRF3\09102001\H855402A.raw

L:12 M:270 C: Current Application Number differs, Replaced Application Number

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:909 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5

L:930 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6